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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,173	04/06/2001	Donald B. Harris	068540-0102	4371

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EXAMINER

FISCHMANN, BRYAN R

ART UNIT	PAPER NUMBER
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3618

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/827,173

Applicant(s)
HARRIS, ET AL

Examiner
Bryan Fischmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 21, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 12-17 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Oct 9, 2001 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on Feb 12, 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 16 6) ☐ Other:

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Acknowledgments

1. The Amendment (paper 15) filed 2-12-2003 has been entered.

Information Disclosure Statement

2. It is noted that Applicant submitted two additional Information Disclosure Statements (paper 12) dated 2-12-2003 and (paper 16) dated 2-21-2003. Only paper 16 was accompanied by a form PTO/SB/08 which has a listing of references requiring the verification that they were considered by the Examiner. Paper 12 has a "cover letter" only, leaving unclear what prior art Applicant wants to be considered by paper 12. If Applicant has additional prior art to be considered associated with paper 12, request Applicant accompany paper 12 with a form PTO/SB/08 or form 1449.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-9 and 12-17 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

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Claim 1, as amended by paper 15 recites "a power source...comprising...a power control module...disposed within said housing and coupled to said battery and said electrical power generator and arranged to supply power to the host machine from either said battery or said generator or from both said battery and said generator".

As best understood, this recitation implies three distinct modes of operation:

- 1 - battery only
- 2 - generator only
- 3 - "hybrid" mode from both battery and generator

Note that the addition of the words "or from both said battery and said generator" in paper 15 changes the meaning of the above recitation to now clearly set forth that three distinct modes of operation are now being claimed.

Note also that from the specification that it is generally understood that having both the battery and generator within the same housing allows for hybrid operation (mode 3). Paragraphs 0040 and 0054 provide written description for operating utilizing the battery only (mode 1). However, no written description of the power unit operating utilizing the generator only (mode 2) is found. Further note that since drawing Figures 2 and 4 show that the battery is connected to bus 17 which leads directly to the vehicle load with no switch to disconnect the battery and that the power control module (4 or 24) is connected in parallel with the battery to the host vehicle that it is not apparent, or that written description has been provided as to how the control module

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would electrically disconnect the battery so that power would be supplied from the generator only.

Per Section 2163.06 of the MPEP, new matter in the claims should be rejected under 35 USC 112 first paragraph, written description requirement.

Note that claim 12 contains a similar recitation.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9, 12 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent 19641254, in view of Early, et al, US Patent 4,961,151.

German Patent 19641254 teaches a removable power source (Figure 5) for use in a host machine that operates on electrical power (line 2 of column 1), comprising:

a housing (Figure 5);

an electrical power generator (22) disposed within the housing (Figure 5);

a battery (20) disposed within said housing (Figure 5);

a power control module (25) disposed within said housing (Figure 5).

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German Patent 19641254 fails to teach that the generator is sized to supply less than peak power demand and that the battery supplies the remaining power demand. German Patent 19641254 also fails to teach that the electrical circuit, or electrical arrangement of the power generator and battery relative to the electrical load.

However, Early teaches a hybrid power system for an electric driven vehicle that has a peak power demand (lines 60-62 of column 1) comprising an electric power generator (fuel cell) that is sized to supply less than the peak power (lines 65-67 of column 1) and a battery that supplies that portion of peak power demand that is not supplied by the electric power generator (lines 1-3 of column 2). An electric power generator that supplies only average, or "less than peak power" and has a battery supply transient peak power requirements is advantageous over one that supplies peak power in that a smaller power generator may be used when only supplying "average" power, lessening expense and weight, which may be particularly important if used on a vehicle. An electric power generator that supplies only average, or "less than peak power" and has a battery supply transient peak power requirements is additionally advantageous in that electric power generators tend to not work as well, or last as long in an environment of fluctuating loads (lines 58-60 of column 1 of Early). Note also that Table I of Early teaches that microprocessor 40 allows the load to be supplied from the electric power generator only, the battery only, or from both the electric power generator and the battery.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to size the electric power generator to provide only the average, or "less than

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peak” power and to utilize a battery supply peak power with power being supplied from either the battery or the electric power generator to the load in the removable power source of German Patent 19641254, as taught by Early.

Regarding claim 2, see reference numbers 21 or 22 of German Patent 19641254.

Regarding claim 3, note Early teaches the use of a fuel cell. A fuel cell is advantageous over an internal combustion engine in that it produces less pollution and does not necessarily rely on non-renewable fossil fuels as a fuel source. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a fuel cell in lieu of the engine and generator of German Patent 19641254.

Regarding claim 4, compare Figures 4 (battery only module) and 5 (hybrid module) of German Patent 19641254.

Regarding claims 5 and 15, see lines 1 and 2 of column 2 of English Language translation of German Patent 19641254 and also Figure 5 of German Patent 19641254.

Regarding claim 6, the Examiner takes Official Notice that spark ignition engines, such as found in most any automobile are spark ignition, as opposed to compression ignition, or “diesel” engines, are known to an ordinary person and found in most automobiles. Spark ignition engines are advantageous in that they are more easily and quickly started than compression ignition engines, especially in cold weather.

Regarding claim 7, the Examiner takes Official Notice that compression ignition engines, or “diesel” engines, are known to one skilled in the art. Many larger “pick-up” trucks, and

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almost all larger trucks use these types of engines. They are advantageous in that higher compression ratios are utilized in the engine relative to spark ignition engines, which leads to greater efficiency.

Regarding claim 8, the Examiner takes Official Notice that rotary engines are known to those of ordinary skill in the art. An example is found in "vintage" Mazda RX-7's which used a rotary engine. Rotary internal combustion engines are known to be more efficient and to produce more power than similar displacement conventional non-rotary, or "reciprocating piston" engines commonly found in domestic automobiles.

Regarding claim 9, the Examiner takes Official Notice that almost all internal combustion spark ignition engines used in automobiles utilize reciprocating pistons. This design is advantageous in that it has been produced so many years, that it has evolved into an extremely reliable engine.

Regarding the recitation of "Electric Vehicle" in the preamble of claim 12, note that line 2 of column 1 of the English Language translation for German Patent 19641254 recites "electrically powered commercial vehicle".

Regarding claims 16 and 17, note that the middle portion of column 4 of the English Language translation of German Patent 19641254 recites "...generating devices are provided...in particular an internal combustion engine...or a gas turbine...". The Examiner takes Official Notice that a gas turbine is an external combustion engine. This may be verified in any textbook describing various types of engines.

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7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent 19641254 and Early, US Patent 4,961,151, as applied to claim 12, and further in view of International Electric Vehicle Symposium Paper Number 782407(E).

The combination Electric Vehicle of German Patent 19641254 fails to teach that the electric vehicle is a fork lift.

However, International Electric Vehicle Symposium Paper Number 782407(E) teaches the use of a hybrid power source powered by a fuel cell and a battery (Figure 1) in a fork lift vehicle. The use of an "electric" power source, as opposed to a "combustion" power source in a fork lift is advantageous where the fork lift is used indoors, as a combustion power source will produce fumes unacceptable when the fork is used inside a building or warehouse. Also, electric vehicles generally produce less pollution than vehicles powered by combustion power sources.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the combination Electric Vehicle of German Patent 19641254 could be embodied as a fork lift, as taught by International Electric Vehicle Symposium Paper Number 782407(E).

Regarding the date International Electric Vehicle Symposium Paper Number 782407(E), it is noted that no date appears on this document. However, note that the first column of the last page of this paper makes a reference to the year 1976, indicating this paper is "70's vintage". Further note that Applicant has admitted that this paper is prior art on form PTO/SB/08 which is part of paper 16.

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Regarding claim 14, the Examiner takes Official Notice that fork lift vehicles have lifting mechanisms coupled to the vehicle. An example of this may be seen at any warehouse, or wherever fork lifts are used. Fork lifts are well known to be used to lift items, often on pallets, off a ground surface to a higher location, as is often necessary in warehouses.

Response to Applicant's Remarks (paper 15) and Examiner's Comments

8. The amendment (paper 15) resolved the specification, drawing and claim objections made in the last Office Action (paper 10).
9. The amendment (paper 15) resolved the 35 USC 112 2nd paragraph and 102 rejections of claims 10 and 11 made on the last Office Action.
10. This Office Action sets forth 35 USC 103 rejections of all outstanding claims due to prior art cited by Applicant on an IDS on paper 16. Note that in particular that one of the items cited on paper 16 was a letter from Thomas W. Bailey to Foley and Lardner dated 2/2003 in which Mr. Bailey, who apparently is representing a potential business associate of Applicant seems to imply that further prosecution, or narrowing of the claims is necessary, in that a power source supplying average demands and a battery supplying peak power demand in a power source is well known in the art. The recitation of "We believe that it is in the mutual interests of our clients to avoid the time and expense of interference or other adversarial proceedings" on page 3 of this letter also strongly implies, that the Instant Application, in it's present form does not claim novel subject matter.

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Conclusion

11. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 2-21-2003 prompted the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i) and Section 706.07(a) of the MPEP. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Fekete - teaches fuel cell/battery hybrid system

B) WO 200267346 - teaches hybrid fuel cell power supply apparatus for a fork lift

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13. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Bryan Fischmann whose telephone number is (703) 306-5955. The examiner can normally be reached on Monday through Friday from 7:30 to 4:00.

If attempts to reach the Examiner by telephone are unsuccessful, the examiner's supervisor, Brian Johnson, can be reached on (703) 308-0885. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

BF

03/14/03


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3/18/03